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Committee Wairarapa Committee  
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## Waiohine Floodplain Management Plan independent audit and mapping revisions

### 1. Purpose

This report provides an update for Committee members on the Waiohine River independent audit and flood hazard mapping.

### 2. Background

Many of the submissions on the draft Waiohine Flood Management Plan (FMP) last year focussed or at least commented on the flood hazard mapping carried out by Greater Wellington Regional Council (GWRC) as part of the FMP process. There was a general lack of trust in the flood hazard mapping. This lack of trust is a major concern, because if the flood hazard is not agreed then it is very difficult to develop and implement solutions to the flood problem.

To address these concerns GWRC (with the endorsement of with Carterton District Council (CDC) and South Wairarapa District Council (SWDC)) arranged for an independent audit of the work to be carried out by Michael Law of Beca.

### 3. Comment

Michael Law will present to the Committee on his audit. The full audit report is attached to this report (**Attachment 1**).

GWRC has engaged Matthew Gardner of Land River Sea consulting to carry out further modelling work to implement Michael Law's recommendations. His scope of work is:

1. Review of the roughness values and bed levels used in the modelling, with reference to improving model calibration/validation and determining appropriate channel bed levels to use for setting stopbank design levels.

2. Meeting with representatives from the Waiohine Action Group (WAG) to discuss their concerns about modelling inputs/assumptions and capture any observations of past flooding, to try to validate these observations in the model
3. Review the method used to apply freeboard used in the model. Are there suitable alternatives which would be easier to explain and implement?
4. Consider the accuracy limits of the LiDAR information on the floodplain and the implications on modelled flood extents and depths.
5. Include the Rail and Road bridges in the model. There will need to be some debris loading blockage scenarios associated with this work.
6. Consider blockage of floodplain culverts, including the Apple Barrel Floodway.
7. Block out buildings within the 2D model bathymetry, if this would be practical and would be any better than what has been done currently.
8. Modelling the Greytown urban area, and any other areas of importance for representing the flood behaviour, to a higher resolution.

As well as addressing the concerns of the community and the recommendations above, GWRC is seeking flood mapping that is technically robust and as far as possible, regionally-consistent and in line with good practice nationally.

We will continue to work with Michael Law to ensure that this work addresses the requirements of his audit.

It will be difficult for the Project Team to make significant progress on considering options until this work is completed. The flood hazard, and agreement on the flood problem we're trying to solve, is fundamental to options development and selection. We propose to regularly report on this work to the Project Team and to bring the updated mapping to them for endorsement as a basis on which to develop options.

The revised flood hazard information will replace our current flood hazard information, and be used for flood hazard advice provided to the public, district councils and other stakeholders in the future.

#### **4. Communication**

The Waiohine FMP Steering Group will need to consider how to engage the community in the new information as part of wider engagement on the proposed FMP.

#### **5. Consideration of Climate Change**

The matters addressed in this report have been considered by officers in accordance with the process set out in the GWRC Climate Change Consideration Guide.

## **5.1 Mitigation assessment**

*Mitigation assessments are concerned with the effect of the matter on the climate (i.e. the greenhouse gas emissions generated or removed from the atmosphere as a consequence of the matter) and the actions taken to reduce, neutralise or enhance that effect.*

Officers have considered the effect of the matter on the climate and have concluded that the matter will have no effect.

Officers note that the matter does not affect the Council's interests in the Emissions Trading Scheme (ETS) and/or the Permanent Forest Sink Initiative (PFSI)

## **5.2 Adaptation assessment**

*Adaptation assessments relate to the impacts of climate change (e.g. sea level rise or an increase in extreme weather events), and the actions taken to address or avoid those impacts.*

GWRC plans for climate change in assessing the degree of future flood hazard and in determining an appropriate response. There are only specific, limited situations in which climate change is not relevant (for example, planning for present-day emergency management).

In assessing flood hazard and determining appropriate structural and/or non-structural responses in areas subject to flood risk, GWRC applied a rainfall increase of 16.8% to the flood hydrology to account for climate change over the next 100 years. This approach was consistent with how we applied the national guidance at that time, and led to increases in flow ranging from 17% to 28% in the different sub-catchments contributing to the hydraulic model.

Further detail is available in the report: High Intensity Rainfall and Potential Impacts of Climate Change in the Waiohine Catchment - NIWA, Feb 2009.

## **6. The decision-making process and significance**

Officers recognise that the matters referenced in this report may have a high degree of importance to affected or interested parties.

The matter requiring decision in this report has been considered by officers against the requirements of Part 6 of the Local Government Act 2002 (the Act). Part 6 sets out the obligations of local authorities in relation to the making of decisions.

### **6.1 Significance of the decision**

Part 6 requires Greater Wellington Regional Council to consider the significance of the decision. The term 'significance' has a statutory definition set out in the Act.

Officers have considered the significance of the matter, taking the Council's significance and engagement policy and decision-making guidelines into account. Officers recommend that the matter be considered to have low significance.

Officers do not consider that a formal record outlining consideration of the decision-making process is required in this instance.

## 6.2 Engagement

In accordance with the significance and engagement policy, no engagement on the matters for decision is required.

## 7. Recommendations

*That the Committee:*

1. *Receives the report.*
2. *Notes the content of the report.*
3. *Endorses the outcomes of the Audit and the additional work commissioned to address the recommendations of the Independent Audit.*

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**Attachment 1:** Flood modelling and mapping audit